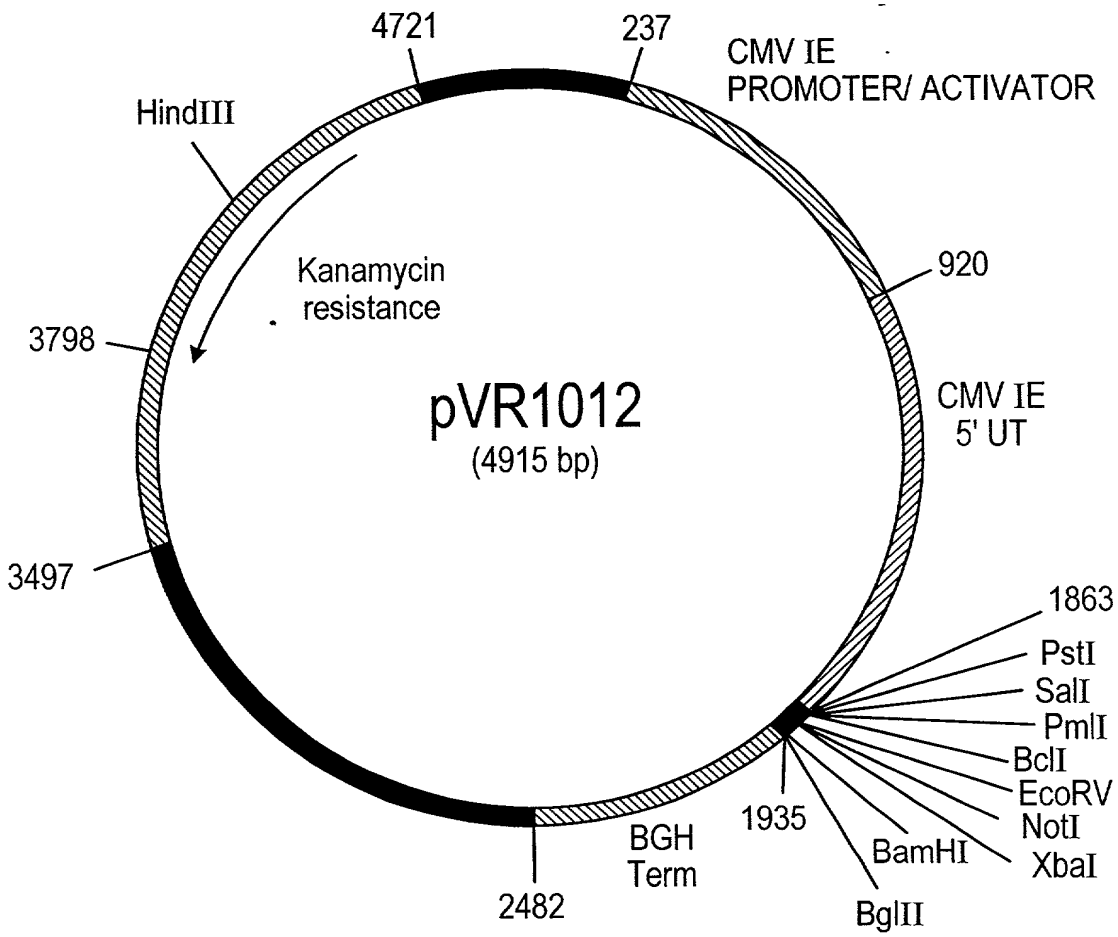
4721
237
CMV IE
PROMOTER/ ACTIVATOR
HindIII
Kanamycin
resistance
920
3798
pVR1012
(4915 bp)
CMV IE
5' UT
3497
1863
PstI
SalI
PmlI
BclI
EcoRV
NotI
XbaI
1935
BamHI
BGH
Term
2482
BglII

FIG. 1

```
  1 ATGGCCGCTCGCGGCGGTGCTGAACGCGCCGCGGGCGCCGGAGACGGTCGGCGAGGACAGCGT
  1 MetAlaAlaArgGlyGlyAlaGluArgAlaAlaGlyAlaGlyAspGlyArgArgGlyGlnArg

 64 CGTCATCTACGACCGGGACGTGTTCTCGCTGCTCTACGCGGTCCTGCAGCGCCTGGCGCCGGC
 22 ArgHisLeuArgProGlyArgValLeuAlaAlaLeuArgGlyProAlaAlaProGlyAlaGly

127 GGGGCGCGCGCCGCGCTAGCCGCTGCCCTGCTATGGGCGACGTGGGCCCTGCTGCTGGCGGCG
 43 GlyAlaArgAlaAlaLeuAlaAlaAlaLeuLeuTrpAlaThrTrpAlaLeuLeuLeuAlaAla

190 CCCGCCGCGGGGCGACCGGCGACAACGCCCCCGGCGCCCCCGCCCGAAGAGGCCGCGAGCCCG
 64 ProAlaAlaGlyArgProAlaThrThrProProAlaProProProGluGluAlaAlaSerPro

253 GCGCCCCCCGCGAGCCCCAGCCCCCCCGGCCCCGACGGCGACGACGCCGCCAGCCCCGACAAC
 85 AlaProProAlaSerProSerProProGlyProAspGlyAspAspAlaAlaSerProAspAsn

316 AGCACAGACGTGCGCGCCGCGCTCCGGCTCGCGCAGGCGGCCGGGGAAAACTCGCGCTTCTTC
106 SerThrAspValArgAlaAlaLeuArgLeuAlaGlnAlaAlaGlyGluAsnSerArgPhePhe

379 GTGTGCCCGCCGCCCTCGGGCGCCACGGTGGTCCGGCTCGCGCCCGCGCGGCCGTGCCCTGAG
127 ValCysProProProSerGlyAlaThrValValArgLeuAlaProAlaArgProCysProGlu

442 TACGGGCTCGGGCGGAACTACACGGAGGGCATCGGCGTCATTTACAAGGAGAACATCGCGCCG
148 TyrGlyLeuGlyArgAsnTyrThrGluGlyIleGlyValIleTyrLysGluAsnIleAlaPro

505 TACACGTTCAAGGCCTACATTTACAAAAACGTGATCGTGACCACGACCTGGGCGGGCAGCACG
169 TyrThrPheLysAlaTyrIleTyrLysAsnValIleValThrThrThrTrpAlaGlySerThr
```

FIG. 2A

568 TACGCGGCCATTACAAACCAGTACACGGACCGCGTGCCCGTGGGCATGGGCGAGATCACGGAC
190 TyrAlaAlaIleThrAsnGlnTyrThrAspArgValProValGlyMetGlyGluIleThrAsp

631 CTGGTGGACAAGAAGTGGCGCTGCCTTTCGAAAGCCGAGTACCTGCGCAGCGGGCGCAAGGTG
211 LeuValAspLysLysTrpArgCysLeuSerLysAlaGluTyrLeuArgSerGlyArgLysVal

694 GTGGCCTTTGACCGCGACGACGACCCCTGGGAGGCGCCGCTGAAGCCTGCGCGGCTGAGCGCG
232 ValAlaPheAspArgAspAspAspProTrpGluAlaProLeuLysProAlaArgLeuSerAla

757 CCCGGGGTGCGGGGCTGGCACACGACGGACGATGTGTACACGGCGCTGGGCTCGGCGGGGCTC
253 ProGlyValArgGlyTrpHisThrThrAspAspValTyrThrAlaLeuGlySerAlaGlyLeu

820 TACCGCACGGGCACCTCTGTGAACTGCATCGTGGAAGAAGTGGAGGCGCGCTCGGTGTACCCG
274 TyrArgThrGlyThrSerValAsnCysIleValGluGluValGluAlaArgSerValTyrPro

883 TACGACTCGTTCGCGCTCTCGACCGGGGACATTATCTACATGTCGCCCTTTTACGGGCTGCGC
295 TyrAspSerPheAlaLeuSerThrGlyAspIleIleTyrMetSerProPheTyrGlyLeuArg

946 GAGGGCGCGCACCGCGAGCACACCAGGCTACTCGCCGGAGCGCTTCCAGCAGATCGAGGGCTA
316 GluGlyAlaHisArgGluHisThrArgLeuLeuAlaGlyAlaLeuProAlaAspArgGlyLeu

1009 CTACAAGCGCGACATGGCCACGGGCCGGCGCCTCAAGGAGCCGGTCTCGCGGAACTTTTTGCG
337 LeuGlnAlaArgHisGlyHisGlyProAlaProGlnGlyAlaGlyLeuAlaGluLeuPheAla

1072 TACACAGCACGTGACGGTAGCCTGGGACTGGGTGCCCAAGCGCAAAAACGTGTGCTCGCTGGC
358 TyrThrAlaArgAspGlySerLeuGlyLeuGlyAlaGlnAlaGlnLysArgValLeuAlaGly

FIG. 2B

1135 CAAGTGGCGCGAGGCGGACGAAATGCTGCGAGACGAGAGCCGCGGAACTTCCGCTTCACGGC
379▸ **GlnValAlaArgGlyGlyArgAsnAlaAlaArgArgGluProArgGluLeuProLeuHisGly**

1198 CCGCTCGCTCTCGGCGACCTTTGTGAGCGACAGCCACACCTTCGCGTTGCAGAATGTGCCGCT
400▸ **ProLeuAlaLeuGlyAspLeuCysGluArgGlnProHisLeuArgValAlaGluCysAlaAla**

1261 GAGCGACTGCGTGATCGAAGAGGCCGAGGCCGCGGTCGAGCGCGTCTACCGCGAGCGCTACAA
421▸ **GluArgLeuArgAspArgArgGlyArgGlyArgGlyArgAlaArgLeuProArgAlaLeuGln**

1324 CGGCACGCACGTGCTGTCGGGCAGCTTGGAGACGTACCTGGCGCGCGGCGGCTTTGTCGTGGC
442▸ **ArgHisAlaArgAlaValGlyGlnLeuGlyAspValProGlyAlaArgArgLeuCysArgGly**

1387 CTTCCGGCGATGCTCAGCAACGAGCTGGCCAAGCTGTACCTGCAGGAGCTGGCGCGCTCGAAC
463▸ **LeuProAlaMetLeuSerAspGluLeuAlaLysLeuTyrLeuGlnGluLeuAlaArgSerAsn**

1450 GGCACGCTCGAGGGGCTGTTCGCCGCCGCGGCGCCCAAGCCGGGCCCGCGGCGCGCGCGCCGC
484▸ **GlyThrLeuGluGlyLeuPheAlaAlaAlaAlaProLysProGlyProArgArgAlaArgArg**

1513 GCCGCGCCGTCTGCGCCCGGCGGCCCGGGCGCGGCCAACGGGCCCGCCGGCGACGGCGACGCC
505▸ **AlaAlaProSerAlaProGlyGlyProGlyAlaAlaAsnGlyProAlaGlyAspGlyAspAla**

1576 GGCGGGCGGGTGACTACCGTGAGCTCGGCCGAGTTTGCGGCGCTGCAGTTCACCTACGACCAC
526▸ **GlyGlyArgValThrThrValSerSerAlaGluPheAlaAlaLeuGlnPheThrTyrAspHis**

1639 ATCCAGGACCACGTGAACACCATGTTCAGCCGCCTGGCCACGTCCTGGTGCCTGCTGCAGAAC
547▸ **IleGlnAspHisValAsnThrMetPheSerArgLeuAlaThrSerTrpCysLeuLeuGlnAsn**

FIG. 2C

1702 AAGGAGCGCGCCCTGTGGGCCGAGGCGGCTAAGCTCAACCCCAGCGCGGCGGCCAGCGCTGCG
568 LysGluArgAlaLeuTrpAlaGluAlaAlaLysLeuAsnProSerAlaAlaAlaSerAlaAla

1765 CTGGACCGCCGCGCCGCCGCGCGCATGTTGGGGGACGCCATGGCCGTGACGTACTGCCACGAG
589 LeuAspArgArgAlaAlaAlaArgMetLeuGlyAspAlaMetAlaValThrTyrCysHisGlu

1828 CTGGGCGAGGGGCGCGTGTTCATCGAGAACTCGATGCGCGCGCCCGGCGGCGTTTGCTACAGC
610 LeuGlyGluGlyArgValPheIleGluAsnSerMetArgAlaProGlyGlyValCysTyrSer

1891 CGCCCGCCGGTCTCCTTTGCCTTCGGCAACGAGAGCGAGCCGGTGGAGGGCCAGCTCGGCGAG
631 ArgProProValSerPheAlaPheGlyAsnGluSerGluProValGluGlyGlnLeuGlyGlu

1954 GACAACGAGCTGCTGCCGGGCCGCGAGCTCGTGGAGCCCTGCACCGCCAACCACAAGCGCTAC
652 AspAsnGluLeuLeuProGlyArgGluLeuValGluProCysThrAlaAsnHisLysArgTyr

2017 TTCCGCTTTGGCGCGGACTACGTGTACTACGAGAACTACGCGTACGTGCGGCGGGTCCCGCTC
673 PheArgPheGlyAlaAspTyrValTyrTyrGluAsnTyrAlaTyrValArgArgValProLeu

2080 GCGGAGCTGGAGGTGATCAGCACCTTTGTGGACCTAAACCTCACGGTTCTGGAGGACCGCGAG
694 AlaGluLeuGluValIleSerThrPheValAspLeuAsnLeuThrValLeuGluAspArgGlu

2143 TTCTTGCCGCTAGAAGTGTACACGCGCGCCGAGCTCGCCGACACGGGTCTGCTCGACTACAGC
715 PheLeuProLeuGluValTyrThrArgAlaGluLeuAlaAspThrGlyLeuLeuAspTyrSer

2206 GAGATACAGCGCCGCAACCAGCTGCACGAGCTCCGGTTCTACGACATTGACCGCGTGGTCAAG
736 GluIleGlnArgArgAsnGlnLeuHisGluLeuArgPheTyrAspIleAspArgValValLys

FIG. 2D

```
2269  ACGGACGGCAATATGGCCATCATGCGAGGGCTCGCCAACTTCTTTCAGGGCCTGGGCGCCGTC
 757▶ ThrAspGlyAsnMetAlaIleMetArgGlyLeuAlaAsnPhePheGlnGlyLeuGlyAlaVal

2332  GGGCAGGCGGTGGGCACGGTGGTGCTGGGCGCCGCGGGTGCCGCGCTCTCGACCGTGTCGGGC
 778▶ GlyGlnAlaValGlyThrValValLeuGlyAlaAlaGlyAlaAlaLeuSerThrValSerGly

2395  ATCGCCTCGTTTATTGCGAACCCGTTCGGCGCGCTGGCCACGGGGCTGCTGGTGCTCGCCGGG
 799▶ IleAlaSerPheIleAlaAsnProPheGlyAlaLeuAlaThrGlyLeuLeuValLeuAlaGly

2458  CTGGTGGCCGCTTTCCTGGCGTACCGGTACATTTCCCGCCTCCGCAGCAACCCCATGAAGGCG
 820▶ LeuValAlaAlaPheLeuAlaTyrArgTyrIleSerArgLeuArgSerAsnProMetLysAla

2521  CTGTACCCGATCACCACGCGCGCGCTCAAGGACGACGCCCGGGGCGCAACCGCCCCGGGCGAG
 841▶ LeuTyrProIleThrThrArgAlaLeuLysAspAspAlaArgGlyAlaThrAlaProGlyGlu

2584  GAAGAGGAGGAGTTTGACGCGGCCAAACTGGAGCAGGCCCGCGAGATGATCAAGTATATGTCG
 862▶ GluGluGluGluPheAspAlaAlaLysLeuGluGlnAlaArgGluMetIleLysTyrMetSer

2647  CTCGTGTCAGCGGTCGAGCGGCAAGAGCACAAGGCGAAAAAGAGCAACAAGGGCGGCCCGCTG
 883▶ LeuValSerAlaValGluArgGlnGluHisLysAlaLysLysSerAsnLysGlyGlyProLeu

2710  CTGGCGACCCGGCTGACGCAGCTCGCGCTTCGGCGGCGAGCGCCGCCGGAGTACCAGCAGCTT
 904▶ LeuAlaThrArgLeuThrGlnLeuAlaLeuArgArgArgAlaProProGluTyrGlnGlnLeu

2773  CCGATGGCCGACGTCGGGGGGGCATGA
 925▶ ProMetAlaAspValGlyGlyAla•••
```

FIG. 2E

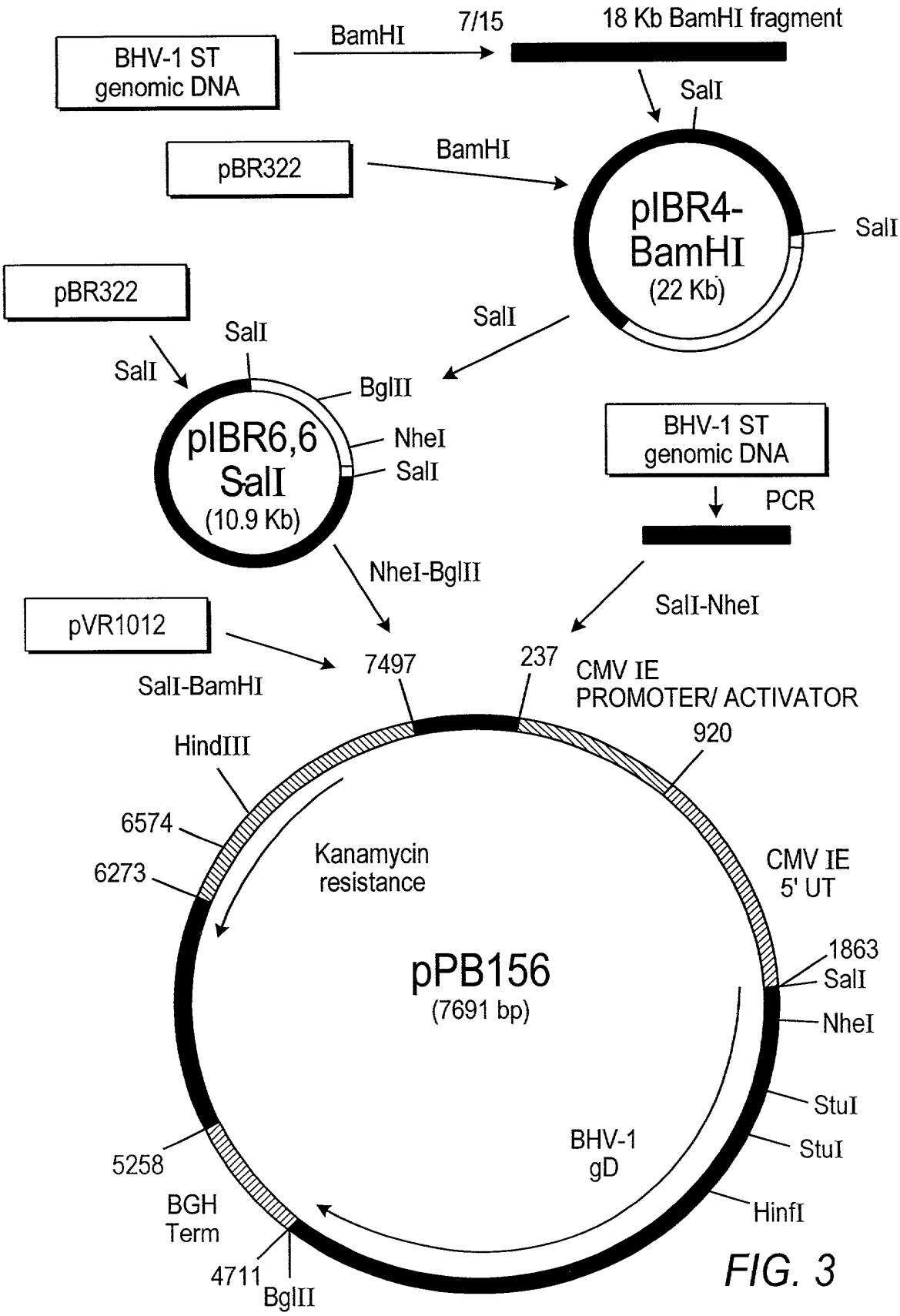

FIG. 3

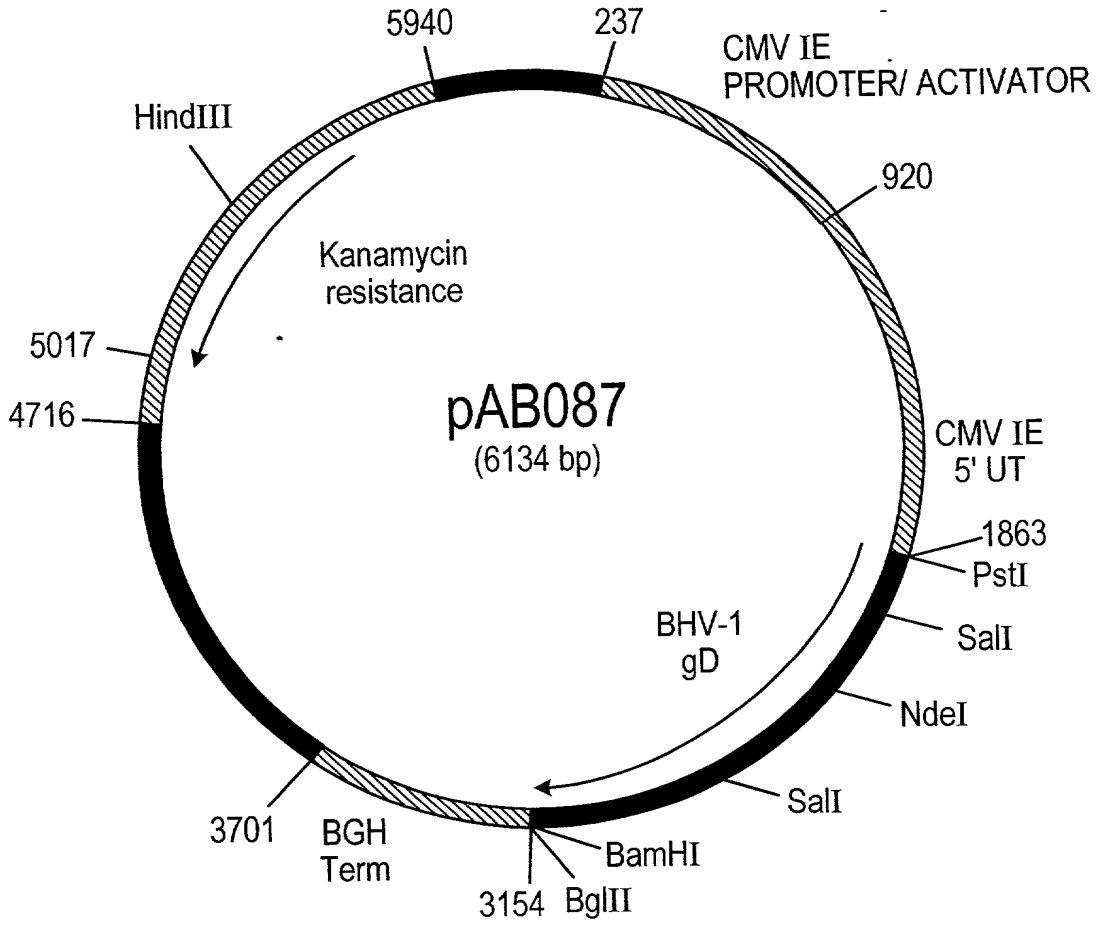
5940
237
CMV IE
PROMOTER/ ACTIVATOR
HindIII
920
Kanamycin
resistance
5017
4716
pAB087
(6134 bp)
CMV IE
5' UT
1863
PstI
SalI
BHV-1
gD
NdeI
SalI
3701
BGH
Term
BamHI
3154
BglII

FIG. 4

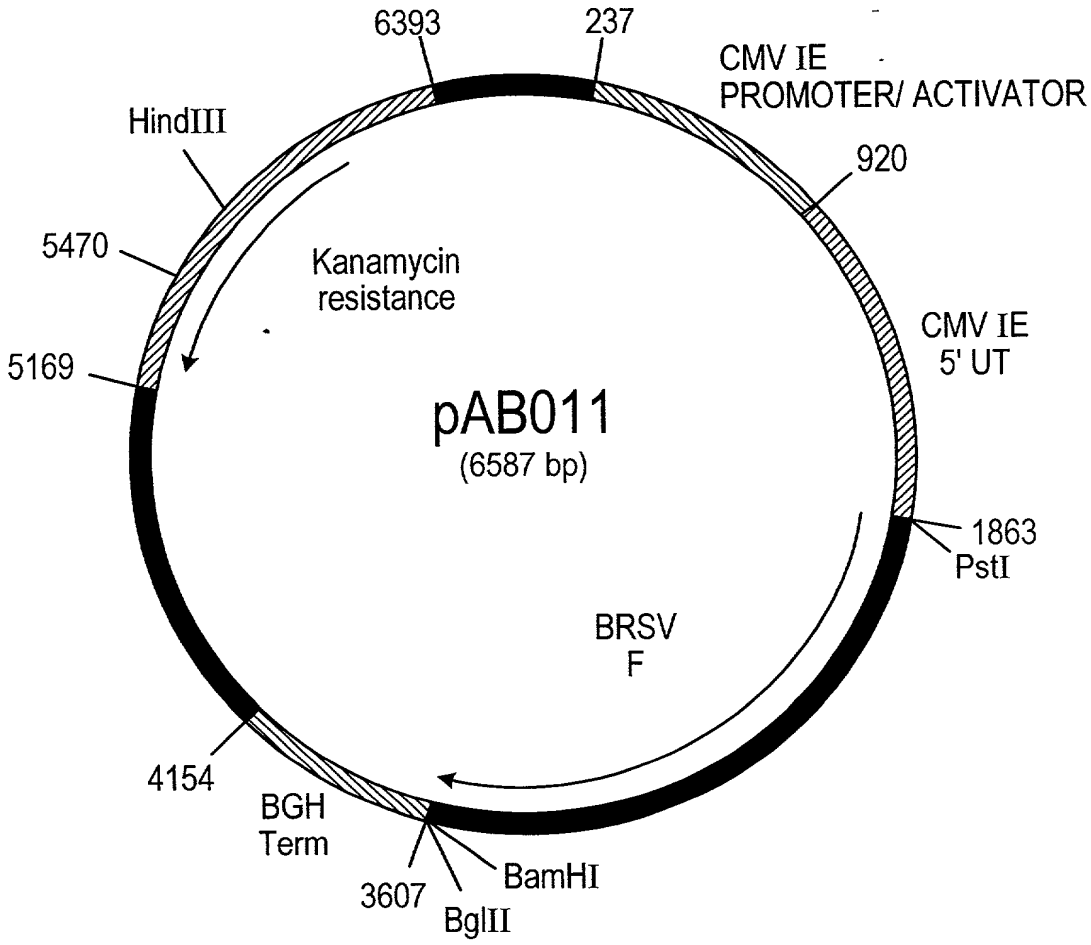
6393
237
CMV IE
PROMOTER/ ACTIVATOR
HindIII
920
5470
Kanamycin
resistance
CMV IE
5' UT
5169
pAB011
(6587 bp)
1863
PstI
BRSV
F
4154
BGH
Term
3607
BamHI
BglII

FIG. 5

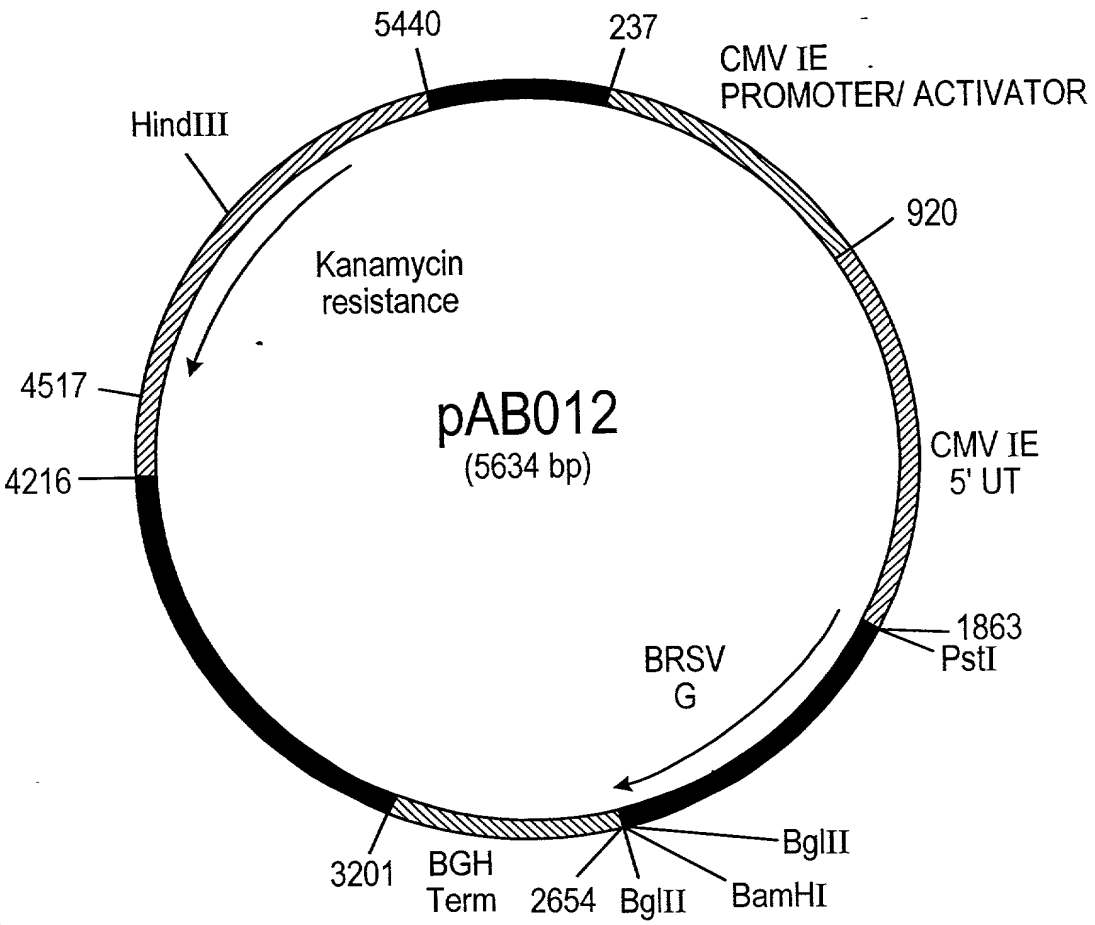
5440
237
CMV IE
PROMOTER/ ACTIVATOR
HindIII
920
Kanamycin
resistance
4517
pAB012
(5634 bp)
4216
CMV IE
5' UT
1863
PstI
BRSV
G
BglII
3201
BGH
Term
2654
BglII
BamHI

FIG. 6

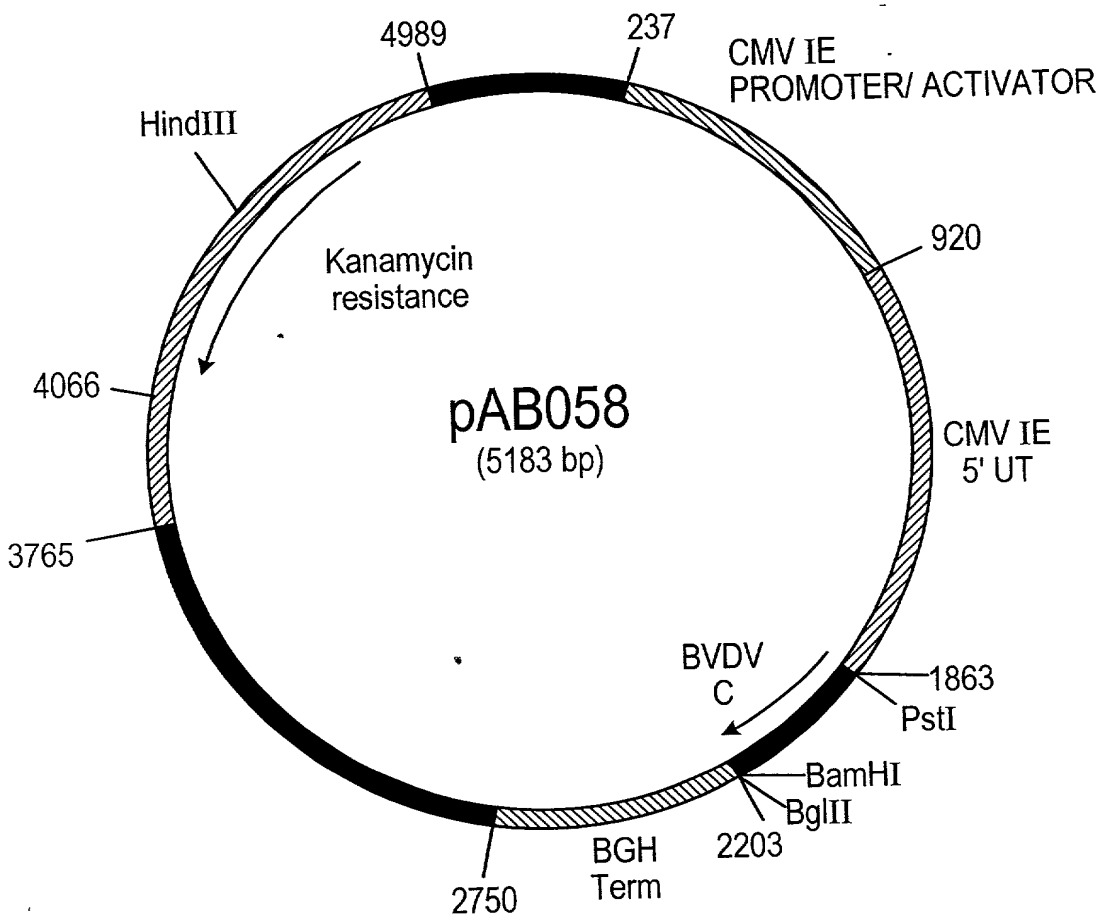
4989
237
CMV IE
PROMOTER/ ACTIVATOR
HindIII
Kanamycin
resistance
920
4066
pAB058
(5183 bp)
CMV IE
5' UT
3765
BVDV
C
1863
PstI
BamHI
BglII
2203
BGH
Term
2750

FIG. 7

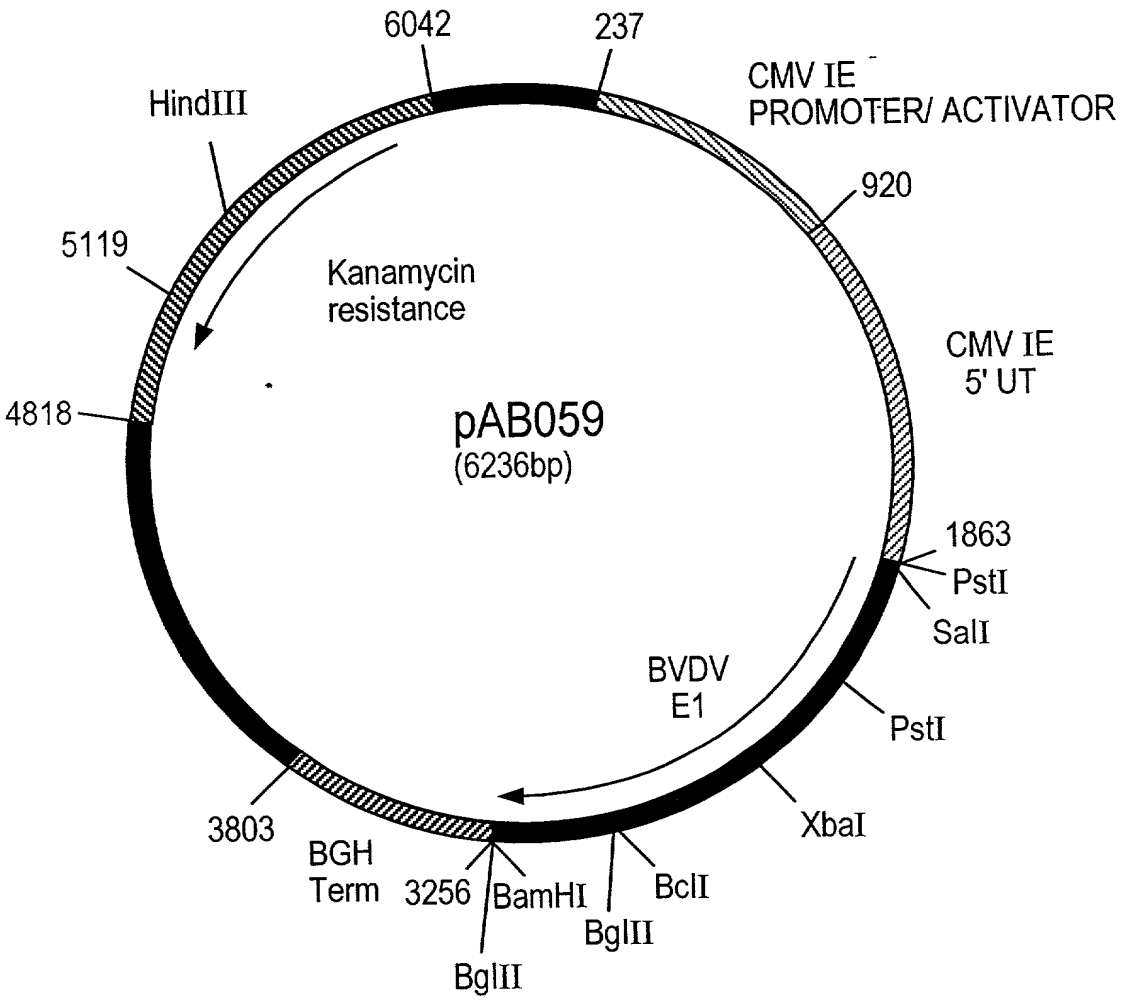
6042
237
CMV IE
PROMOTER/ ACTIVATOR
HindIII
920
5119
Kanamycin
resistance
CMV IE
5' UT
4818
pAB059
(6236bp)
1863
PstI
SalI
BVDV
E1
PstI
XbaI
3803
BGH
Term
3256
BamHI
BclI
BglII
BglII

FIG. 8

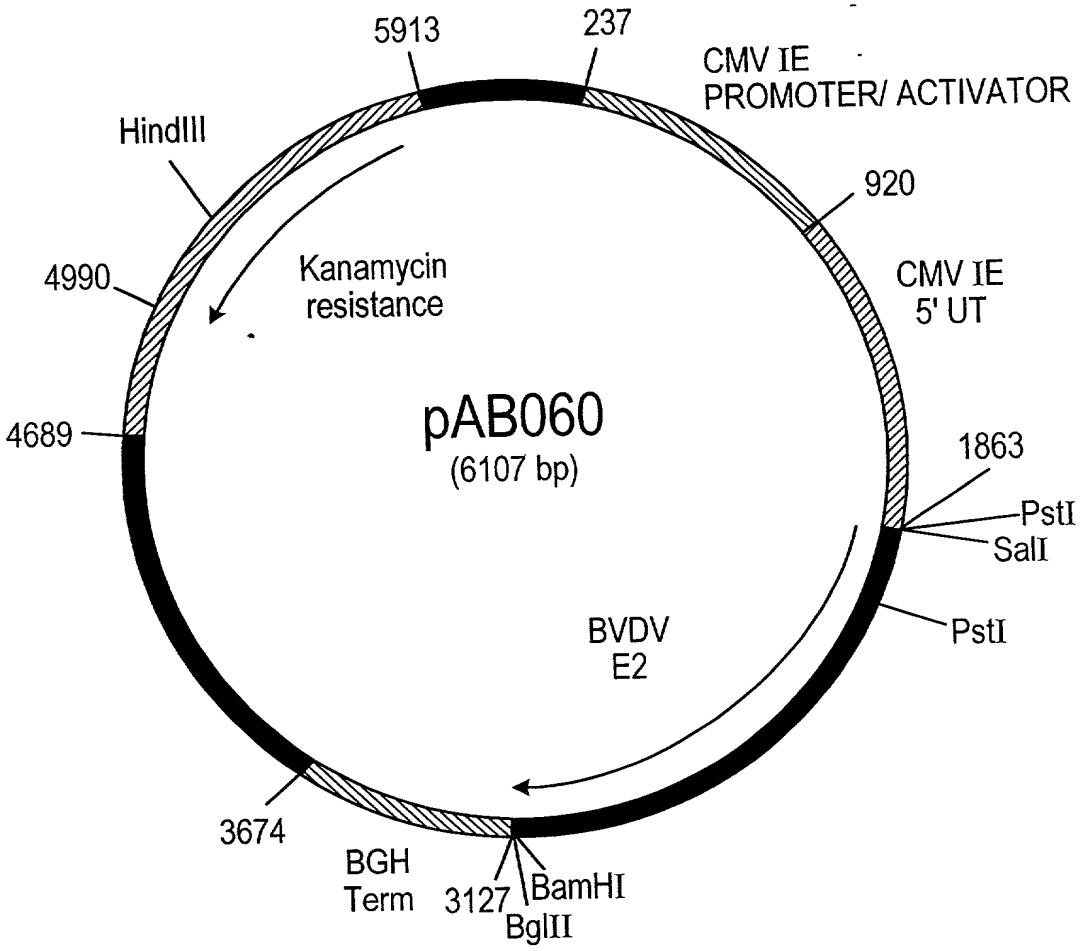
5913
237
CMV IE
PROMOTER/ ACTIVATOR
HindIII
920
4990
Kanamycin
resistance
CMV IE
5' UT
pAB060
(6107 bp)
4689
1863
PstI
SalI
BVDV
E2
PstI
3674
BGH
Term
3127
BamHI
BglII

FIG. 9

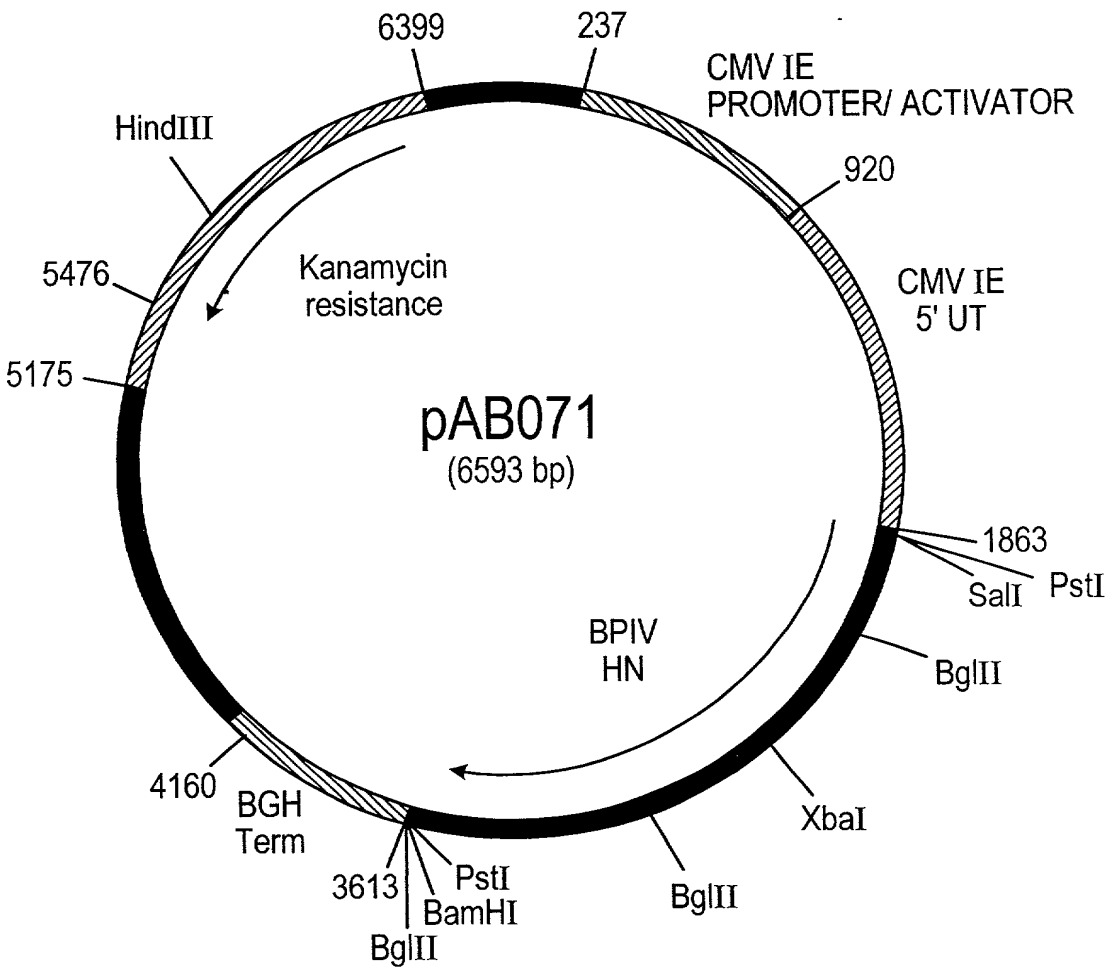
6399
237
CMV IE
PROMOTER/ ACTIVATOR
HindIII
920
5476
Kanamycin
resistance
CMV IE
5' UT
5175
pAB071
(6593 bp)
1863
SalI
PstI
BPIV
HN
BglII
4160
BGH
Term
XbaI
3613
PstI
BamHI
BglII
BglII

FIG. 10

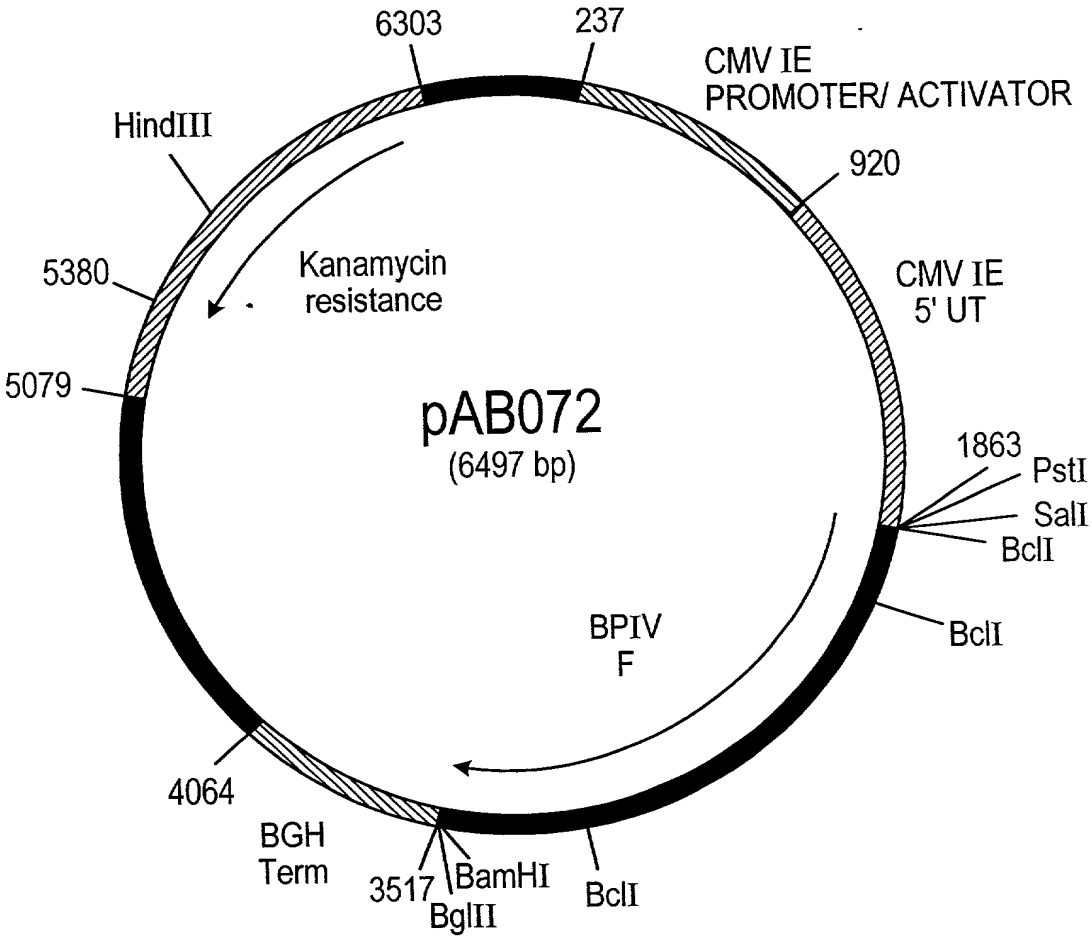
6303
237
CMV IE
PROMOTER/ ACTIVATOR
HindIII
920
5380
Kanamycin
resistance
CMV IE
5' UT
5079
pAB072
(6497 bp)
1863
PstI
SalI
BclI
BclI
BPIV
F
4064
BGH
Term
3517
BamHI
BglII
BclI

FIG. 11